

# Topics for SBIR contracts

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# SBIR Program Overview

## Small Business Innovation Research (SBIR)

**2.5%**

**Set-aside program for small business concerns to engage in federal R&D -- with potential for commercialization.**

## Small Business Technology Transfer (STTR)

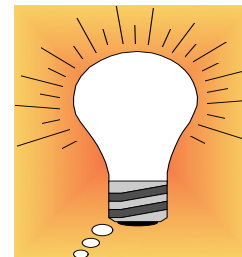
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**Set-aside program to facilitate cooperative R&D between small business concerns and U.S. research institutions -- with potential for commercialization.**

# SBIR/STTR: Three Phase Program

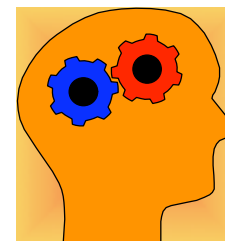
## PHASE I

- Feasibility Study
- \$150K and 6- 12 month



## PHASE II

- Full Research/R&D
- \$1 M and 2-year Award



## PHASE III

- Commercialization Stage
- Use of non-SBIR/STTR Funds



## NIEHS SBIR Program

- SBIR Grants \$10.9M
- STTR Grants \$1.3M
- SBIR Contracts \$1.33M
- NIH Omnibus Contract Solicitation
  - solicit topics from NIEHS scientists
  - concept review
  - Nov. receipt date

## Topic 1:

### **Application of 'Omics' Technologies to Rodent Formalin-Fixed, Paraffin Embedded Tissue Samples (Dr. Raymond Tice)**

- Develop methods and tools to extract DNA, RNA or protein from FFPE tissues from in vivo tox studies
- Enable additional molecular analyses of tissues from NTP archives

## Topic 2:

### **High Throughput Screening for Reactive Oxygen Species Mediating Toxicity (Dr. Raymond Tice)**

- Develop methods for detection of global or specific ROS amenable for HTS assays
- Detection of ROS in subcellular organelles and linkage to protein or DNA damage

## Topic 3:

### **In Vitro 3D Tissue Models for Toxicity Testing (Dr. Raymond Tice)**

- develop in vitro experimental systems capable of replicating major organ systems in humans
- 3D tissue models that are amenable to omics approaches and genetic variation to simulate differences in susceptibility to env toxicants
- Kidney, lung and skin
- skin – fully stratified 3D model –dermal and epidermal compartments, paracrine signaling

Topic 4:

**Development of Improved Biomarkers as Earlier Humane Endpoints for Ocular Safety Assessments (Dr. William S. Stokes)**

- Apply new technologies for more objective measures of ocular toxicity - ultrasound imaging, reflectance colorimetry, biomicroscopic/slit-lamp evaluations, confocal microscopy to assess depth of corneal injuries, pachymetry to assess corneal thickness
- Provide earlier robust measures for earlier study termination

Topic 5:

**Development of Sensitive Innovative Methods for Detecting and Assessing Pain and Distress in Laboratory Animals Used in Toxicological Research and Testing (Dr. William S. Stokes)**

- Develop early objective and sensitive biomarkers indicative of pain and distress in laboratory animals (video recording, physiological measures)
- use to evaluate interventions to lessen pain/distress

# Questions